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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/898,989	07/03/2001	John E. Mercer	DCI-15C2	7384

21833 7590 10/22/2003

BOULDER PATENT SERVICE INC
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EXAMINER

SINGH, SUNIL

ART UNIT PAPER NUMBER

3673

DATE MAILED: 10/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/898,989	Applicant(s) MERCER, JOHN E. SW	
	Examiner Sunil Singh	Art Unit 3673	

The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 41-52, 55-66, 69-80, 83-94 and 97-114 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 41-52, 55-66, 69-80, 83-94 and 97-114 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

Claims 109-113 have been renumbered as claims 110-114 since there was a duplicate number 109.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 41, 55, 69, 83, 97, 99, 101, 103, 105-114 are rejected under 35 U.S.C. 102(b) as being anticipated by Galle (US 4914433).

Galle discloses a drilling system for performing underground boring (see Fig. 1) including a drill rig (229), a monitoring arrangement comprising a detection at said drill rig for monitoring at least one operational parameter to produce a data signal relating to at least one of a utility to be installed in the underground bore (see col. 12 line 1+), the drill rig and the boring tool, a portable receiver (233) configured for movement by an individual operator (the surface monitoring and recording equipment (233) is configured for movement by an individual operator) receiving the data signal relating to the operational parameter for use by the portable device and said portable device includes a display arrangement configured for using the data signal for display to the individual operator of the portable device and a communication arrangement (231) for transferring the data signal from the drill rig to the portable device.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 42-52, 56-66, 70-80, 84-94, 98, 100, 102 and 104 are rejected under 35 U.S.C. 103(a) as being unpatentable over Galle '433.

With regards to claims 42,56,70,84, Galle does not explicitly teach that one of the parameters is a locating signal. Locating signals are well known and old parameters when boring. It would have been considered obvious to one skilled in the art to modify Galle by having at least one of the parameters be a locating signal which is well known in the art in order to be able to locate the position of the drilling tool.

With regards to claims 43,47,57,61,71,75,85,89,98,100,102,104, Galle does not explicitly teach that one of the parameters is a push force signal. Push force signals are well known and old parameters when boring. It would have been considered obvious to one skilled in the art to modify Galle by having at least one of the parameters be a push force signal which is well known in the art in order to be able to avoid damaging the drilling tool by pushing it too hard in the event it encounters an obstacle.

With regards to claims 44-46, 58-60, 72-74, 86-88, Galle does not explicitly teach that one of the parameters is a predetermined value. To have set predetermined

values (such as maximum temperature) are well known and old parameters when boring. It would have been considered obvious to one skilled in the art to modify Galle by having at least one of the parameters be a particular predetermined value (such as maximum temperature) which is well known in the art in order to be able to avoid damaging the drilling tool by overheating.

With regards to claims 48-49, 62-63, 76-77, 90-91, Galle does not explicitly teach that one of the parameters is a mud signal. Mud signals are well known and old parameters when boring. It would have been considered obvious to one skilled in the art to modify Galle by having at least one of the parameters be a mud signal which is well known in the art in order to be able to stop boring when there is not enough mud to facilitate flushing to cut debris.

With regards to claims 50-52, 64-66, 78-80, 92-94, Galle does not explicitly teach that one of the parameters is a bend radius signal. Bend radius signals are well known and old parameters when boring. It would have been considered obvious to one skilled in the art to modify Galle by having at least one of the parameters be a bend radius signal which is well known in the art in order to be able to bore a deviated hole.

Response to Arguments

5. Applicant's arguments with respect to claims 41-52, 55-66, 69-80, 83-94, 97-114 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sunil Singh whose telephone number is (703) 308-4024. The examiner can normally be reached on Monday through Friday 8:30 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather Shackelford can be reached on (703) 308-2978. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9327 for After Final communications.

Art Unit: 3673

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2168.

Sunil Singh

Patent Examiner
Art Unit 3673



HEATHER SHACKELFORD
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

SS
October 17, 2003